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MEMORANDUM FOR Howard Hogan
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Demographic Full Count Review

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Subject: Demographic Full Count Review: 100% Data Files and Products

The attached document was prepared, per your request, to assist the Executive Steering Committee on A.C.E. Policy in assessing the data with and without statistical correction.

This report summarizes the Demographic Full Count Review program for 100% data files and products.

DSSD Census 2000 Procedures and Operations Memorandum Series B-16*
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Demographic Full Count Review: 100% Data Files and Products

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Demographic Full Count Review: 100% Data Files and Products

prepared by Michael J. Batutis

Executive Summary

Demographic Full Count Review uses comparative demographic data and expertise to rapidly examine, rectify if possible, and clear Census 2000 files and products for subsequent processing or for release to the public. The review checks for data reasonableness, internal and inter-product consistency, and consistency with historical and external data sources. The review objective is to identify, investigate, and document issues with the data.

The Demographic Full Count Review checked for consistency of Census 2000 data as compared with historical and external data sources. Census analysts with demographic expertise spanning the 100% data variables reviewed all files. In addition, Federal State Cooperative Program for Population Estimates (FSCPE) representatives assisted the Census Bureau by bringing their local demographic insight to the review. The analysts used automated tools so they could rapidly identify issues, efficiently investigate causes, and quickly document their findings.

The Count Review analysis successfully accomplished two main purposes in census evaluation:

- Identifying, investigating, and documenting issues regarding data files and products within a very tight processing schedule, and
- Assessing (and in some cases improving) quality of the products.

The program was an excellent example of the power of marshaling analytic resources from both the Census Bureau and from the FSCPE partners.

Count Review's rigorous examination of the data helped progressively improve it and accumulate insight into its strengths and weaknesses. The use of automated analytic tools was a critical success factor especially given the exceptionally tight time frames for the review.

The review (to date) has identified, investigated, and documented 4,330 issues. With the exception of group quarters, the issues do not disclose any broad themes that suggest a Census quality issue. The disproportionately large number of group quarters issues does suggest systemic problems in the collection of these data, possibly including enumeration, geo-coding, and type coding. The analysis cannot disclose whether the GQ enumeration was better or worse than previous censuses because this is the first time there was such an in-depth review. The balance of the issues, while not revealing any broad patterns of data quality, may be significant individually and will receive further analysis in the context of Count Question Resolution.

Background

Demographic Full Count Review uses comparative demographic data and expertise to rapidly examine, rectify if possible, and clear Census 2000 files and products for subsequent processing or for release to the public. The review checks for data reasonableness, internal and inter-product consistency, and consistency with historical and external data sources. The objective of the review is to identify, investigate, and document issues with the data. The review strategy calls for capitalizing on every opportunity to improve the data. The process is iterative, where insight into data quality progresses through each review stage and culminates in clearance of redistricting data and data products.

Demographic Full Count Review encompassed all Census 2000 data files and products. For the purposes of this report, however, the discussion is limited to the review of 100% data items. These data are the basis for apportionment counts and for redistricting data products. Subsequent analysis will address the data that is collected from long form data items. The 100% data include:

- Total population
- Group quarters population
- Group quarters units
- Housing units
- Household population
- Age
- Race
- Sex
- Hispanic Origin
- Relationship
- Tenure

What is the purpose of count review?

The Count Review analysis serves two principal purposes in census evaluation: identifying, investigating, and documenting issues, and assessing (and possibly improving) quality of the products.

Identifying, documenting, and identifying issues

Using an automated review system, analysts identify, investigate, and document issues regarding census data files and products. These issues include:

- Completeness – Analysts assess completeness of the Census by determining that all geographic levels and administrative and political entities are present.

- Coverage – Analysts also assess coverage and examine the number of persons, housing units and special places/group quarters by comparison with benchmark data.

- Reasonableness – Analysts judge reasonableness by examining the Census data against historical population trends, comparisons with independent population estimates for April 1, 2000, and through application of demographic subject area expertise and local insight.

- Validation of edits and imputations – Analysts validate the appropriate performance of edit and imputation algorithms designed to help account for missing or incorrectly entered survey data.

Quality

The count review's results provide insight into quality of the 100% data. Analysts review the data to low (tract and place) levels of geography. They identify, investigate and document possible problems in the data. Taken together, the insights gained through this process indicate strengths and weaknesses in the census data and products. These insights will provide support to the Count Question Resolution process and will serve as a "lessons learned" resource for future censuses.

What is the review strategy?

The strategy capitalizes on each opportunity to review (and where possible to improve) the data. It develops more refined and detailed data files and products during the year following the Census.

Census files are created state-by-state and each state's data passes through several processing stages:

a. HCUF – Hundred percent Census Unedited File
b. HCEF – Hundred percent Census Edited File
c. HDF – Hundred percent Detail File
d. Redistricting Products

Analysts review the data for each state beginning with the HCUF and build an increasingly complete picture of data quality with each successive stage. Population Division cleared the HCEF files, the HDF analyzer tables, and the redistricting data products prior to each file being released for the next stage (or release to the public in the case of the redistricting products).

How does Count Review relate to Demographic Analysis?

Demographic Analysis (DA) is conducted in parallel with Count Review. DA is an analytical approach that has been extensively used at the Census Bureau to measure coverage of the national population in every census since 1960.

Demographic Analysis uses a macro-level approach, where analytical estimates of net undercount are derived by comparing aggregate sets of data or counts. The DA population benchmarks are developed from various types of demographic data essentially independent of the census, such as administrative statistics on births, deaths, immigration, and Medicare enrollments, as well as estimates of emigration and undocumented immigration.

The Demographic Analysis complements the Demographic Full Count Review in that it is based on an independent set of benchmark data and focuses on detecting broad changes or patterns. By comparison, the Count Review analysis is carried to a finer degree of geographic granularity, examines individual characteristic variables (age, race, sex, etc.), and focuses on identifying specific anomalies in the data.

Analysis

What was the Count Review methodology?

The Demographic Full Count Review checked for consistency of Census 2000 data as compared with historical and external data sources. Census analysts with demographic expertise spanning the 100% data variables reviewed all files. In addition, Federal State Cooperative Program for Population Estimates (FSCPE) representatives assisted the Census Bureau by bringing their local demographic insight to the review. The analysts were supported with automated tools so they could rapidly identify issues, efficiently investigate causes, and quickly document their findings.

The analytical team

Subject Matter Experts. Analysts from the Population Division and the Housing and Household Economic Statistics Division (HHES) reviewed all files. Thirty-nine subject area analysts participated in the review, coming from the branches within these divisions that have resident demographic expertise spanning the 100% data items:

Coverage – Analysts also assess coverage and examine the number of persons, housing units and special places/group quarters by comparison with benchmark data.

- Special Populations Staff
- Racial Statistics Branch
- Ethnic and Hispanic Statistics Branch
- Population and Housing Programs Branch
- Fertility and Family Statistics Branch
- Physical and Social Characteristics Branch

State Representatives. The FSCPE supported the Census Bureau in conducting the review. The FSCPE has a history of working with the Population Division on estimates and comparative data and has directly relevant technical expertise. Fifty-three analysts participated representing thirty-nine of the states and Puerto Rico. The FSCPE participants worked as on-site analytic partners for technical reviews. They used the same methods and tools as Census in-house analysts for those reviews, supplemented in some cases by specific analyses using locally developed data. In addition to the on-site work, the FSCPE participants provided consultative support as "on call" local experts to apply expertise to specific questions referred to them.

FSCPE representatives reviewed Census 2000 data for their own state as contractors with special sworn status and worked at Census Bureau headquarters for all stages of the review. The participating individuals are employees of the agency designated as the FSCPE organization for their state. The FSCPE representatives took an oath under Title 13, U.S. code Section 9, not to disclose any Title 13 confidential information, and not to disclose any other information about Census 2000 data or products prior to the official release of the redistricting data for their state.

These requirements were based upon the need to assure the confidentiality of individual household and group quarters data, and to preserve the integrity of the data used for redistricting.

International Program Center, Population Division, and Housing and Household Economics Division Participants. The International Program Center (IPC), the Population Division, and the Housing and Household Economics Division supported the review by providing analysts to supplement the FSCPE team. Fifteen analysts from these areas reviewed states that were unable to participate in the FSCPE review.

Comparative benchmarks

The analysts (including Census analysts and FSCPE representatives) developed specifications for the comparative data that they felt would facilitate identifying anomalies in the Census 2000 data. Comparative data that comprised the core benchmark database included:

- 1990 Census data. The 1990 data in 1990 tabulation geography.

- Population estimates data. The 1999 estimates data extrapolated to April 1, 2000. For comparisons at the place level, the data were tabulated using the latest available geography.

- Claritas data. Independent, commercially available population estimates for April 1, 2000.

Additional comparative data was used on a case-by-case basis to meet specific analytic objectives. These data were not included in the core benchmark database and were not used in programmed applications. They were, however, used as a supplemental resource during the review. The primary examples are comparative data drawn from local sources provided by the state representatives.

Analytical tools

To manage the pace and complexity of analysis, the analysts were supported with a suite of automated tools. A group of Census and FSCPE analysts developed specifications for analytic applications that they felt would facilitate the comparisons against benchmark data. A team of programmers from Population and HHES Divisions developed applications based on the specifications. Some applications were created by the Decennial Systems and Contracts Management Office (DSCMO) and Data Products Production (DPP). The resulting tools ranged from simple difference tables to complex presentations using a geographic information system:

- SAS suite of tools, including:
  - SAS programs and procedures
  - SAS Multi-Dimensional Database (MDDB) tables
  - SAS EIS reports
- ArcView Geographic Information System (GIS) designed to map outliers
- Dynamic comparison tables for tabular display of geographic outliers
- Predefined demographic characteristics tables by subject area

- Editals and analyzers providing statistical distributions of variables
- SuperCross for PL review

Throughout the review, the analytic tools facilitated:

- Comparison of Census 2000 data with benchmark data.
- Analysis by characteristics – age, race, etc., including comparing Census 2000 data with benchmark data and displaying percent difference by variable (age, race, etc.).
- Drilling-down to the microdata in support of analytic investigation of problems.

Analytic approach

Subject matter analysts investigated specific demographic characteristics by examining data at the state and county level. They looked for reasonableness of demographic trends. In addition, these analysts were focused on the impact of edits and imputations. In general, their review could be described as addressing the full breadth of 100% demographic variables, but limited to higher levels of geography. On average, the typical branch analyst reviewed files from 10 or more states at each stage of the review. Subject-specific tables were generated to assist these analysts in their review.

The FSCPE/IPC analysts focused on their state, and consequently were able to carry the analysis to detailed geography. They looked for apparent anomalies in the data by identifying geographic areas that were unexpectedly different from historical or other comparative data, and investigated the possible problem by "drilling down" to successively more detailed levels of geography. In general, their approach could be described as a more thorough vertical analysis, but limited to specific population variables.

Security

Count Review involved a large number of individuals (in excess of 100 analysts). Since all these individuals had access to sensitive data, maintaining confidentially was a paramount concern. All the reviews were conducted at secure Census facilities at the Suitland Headquarters or at the Washington Plaza facility. All reviewers were Census employees or contractors with special sworn status. Information on the provisions of USC Title 13 was provided to all participants. The absolute requirement for confidentiality was emphasized in training and at every stage of the review.

What limitations constrained the review?

The principal limitations of the count review approach included comparative data limitations, time constraints, and the inherent limits of an issue-oriented, focused review approach.

Comparative data

The review used historical census data and census-derived estimates for comparisons. This data was not in exact one-to-one correspondence with the Census 2000 data at low levels of geography. For example, the Census 2000 collection geography was not a one-to-one match with

1990 Census tabulation geography at the tract level. In addition, for some places, areas that were recently annexed were not reflected in the boundary files. Analysts also had to separate significant differences from those that could be expected. While there were mitigating strategies for both of these difficulties, they nevertheless were factors in conducting the review.

Time constraints

The pace of the review was dictated by the file-processing schedule. In some cases, analysts were afforded a day or less to review a state file. Even with the power of the automated analytic tools, a comprehensive review was difficult in the time available.

Issue orientation

Count Review was designed to look for the unexpected. The analytic approach emphasized identifying anomalies or "unreasonable" characteristics, and investigating likely causes. The results were, therefore, a documented collection of possible problems, focused on particular issues or subject matter. A reflective review of these results can disclose broad patterns and provide insights into census quality in a general sense. The review and the resultant documentation, however, does not lend itself to rigorous statistical analysis. The conclusions presented in this paper relied heavily on qualitative judgment.

What was accomplished?

Chronology

The 100% count review program encompassed review of the following data files and products:

100% Census Unedited File (HCUF): The HCUF files were reviewed for all states plus the District of Columbia and Puerto Rico. The review was conducted from early October 2000 through mid-November 2000.

100% Census Edited File (HCEF): The HCEF files were reviewed in two forms: 1) with potential duplicate records included (referred to as the HCEF′ files), and 2) with all "flagged" duplicate records removed (the HCEF″ files). The HCEF′ files were reviewed for 29 selected states to validate performance of edit processes. The HCEF″ files were reviewed for all states plus the District of Columbia and Puerto Rico (these were the only files reviewed by FSCPE and IPC participants). The review was conducted from late November 2000 through mid-December 2000.

100% Detail File (HDF): The HDF files were reviewed for all states plus the District of Columbia and Puerto Rico. The review was conducted from late December 2000 through mid-January, 2001.

PL Redistricting Data: The PL data were reviewed for all states plus the District of Columbia and Puerto Rico. The review was conducted from late January to mid February.

Identifying, investigating, and documenting issues

To meet the objectives of 100% Count Review, analysts applied demographic judgment, facilitated by a suite of analytic tools, to identify, investigate and document issues. As described previously, issues were identified when anomalies appeared in the data, either based on comparison of Census 2000 data with benchmark data or from applying local insight about state demographics.

When, in an analyst's judgment, an issue was identified that merited attention, the data surrounding the issue was recorded. A complete description of the issue together with supporting documentation was created in hard copy form as the formal documentation. (Descriptive information also was automatically posted in the Count Review Information System database.) Supporting documentation included maps generated by the GIS tools and data tables or extracts from comparative datasets. This documentation was used as the primary reference material for decisions regarding clearance and serves as the official documentation of review results. Retained copies of the documentation (together with the database) are a resource that can be further analyzed to indicate general themes regarding strengths and weaknesses in the census data and products. This resource also comprises an initial set of internal issues for consideration in Count Question Resolution. Finally, the documentation will serve as a "lessons learned" resource for future censuses.

Measures of review activity

Over the course of the review, 107 analysts reviewed a total of 252 distinct data files (there were several cases where more than one version of a state file was processed and reviewed). Table 1 shows summary statistics describing the review activity. As can be seen from the table, each stage of the review provided for a comprehensive look at the data and resulted in a variety of issues being identified.

Table 1. Summary of Count Review Statistics for 100% Data Files (Census 2000)

	HCUF	HCEF*	HDF**	PL 105-119	Overall
No. of issues identified	1911	1475	827	117	4330
Average no. of issues per state	37	28	16	2	83

** 139 of the 1,475 HCEF issues were identified as follow-up to HCUF issues*
*** 16 of the 827 HDF issues were identified as follow-up to HCUF or HCEF issues*

Overall, each file received approximately 55 hours of review, including an average of 30 hours from FSCPE/IPC analysts in a detailed review and 25 total hours of broader demographic analysis from several analysts across the Population and HHES branches. The total effort required approximately 13,900 person hours.

Findings

What were the results of the basic comparative analysis?

The count review analysis was predicated on localizing issues by comparing Census 2000 data with benchmark data. Analysts used these comparisons to look for outliers – differences outside preset threshold levels.

Results of benchmark analyses using population measures

The FSCPE/IPC analysts focused on their state and looked for apparent anomalies in the data by identifying geographic areas that were unexpectedly different from historical or other comparative data. To begin this analysis, the analysts were presented with the results of comparisons of Census data to benchmark data (1990 Census, Census population estimates and third party data). The comparisons were done for principle population measures:

- Total population
- Group quarters population
- Group quarters units
- Housing units
- Household population

The appendix contains a tabulation of these population measures by tract showing differences when Census 2000 data is compared to benchmark data. In Table A. National Tract Totals Comparing Census 2000 Data with Benchmark Data, each row contains the number of Census 2000 tracts that fall between 0 to 25% (+/-) when Census 2000 data is compared to either 1990 Census data or April 1, 2000 Claritas Estimates. For example, nationally there were 1317 tracts that incurred a 25% or higher increase in their total population for 2000 as compared to 1990 (see the first row and column in Table A.). Overall, these tables provide a very general picture of how the 2000 Census data compares to 1990 Census data and the April 1, 2000 Claritas estimates at the tract level. The FSCPE representatives used this type of data to further investigate geographic areas where there were large tract differences.

How has Count Review supported the clearance process?

Census 2000 files were reviewed following the processing sequence.

Clearance by processing stage

In summary, the clearance actions were as follows:

- HCUF. Formal clearance was not provided for the unedited data files, however, the review was conducted following the full process including branch level clearance recommendations. Several state files were processed more than once and the data quality of files was progressively improved. Similarly, the analytic tools, especially in the racial statistics subject

area, were improved at this stage. By the final set of HCUF files, with the exception of the racial statistics group, all state files were recommended for clearance.

- HCEF′. The HCEF′ files were the initial set of edited files. These early files included potential duplicate records, but were well suited for comparison with the HCUF data for validating edits and imputations. Twenty-nine state files were reviewed and all were cleared (with an exception noted by one branch for one edit, which was later resolved).

- HCEF″. The HCEF″ files were the final edited files using collection geography. The final duplicate record processing had been completed for these files. Both the FSCPE participants and the subject area branches reviewed all state files. All 50 state files plus the District of Columbia and Puerto Rico were cleared.

- HDF. The HDF file differed from the HCEF″ files primarily in that tabulation geography was applied. Analysts from the FSCPE/IPC and from some demographic areas examined the data by this geography, especially examining place level population values that are fundamental to generating the redistricting data products. All 50 states plus the District of Columbia and Puerto Rico were cleared.

- HDF Analyzer tables (containing general frequency counts). The HDF analyzer tables were reviewed for reasonableness by subject matter analysts in the Population Division and the Housing and Household Economic Statistics Division. All 50 states plus the District of Columbia and Puerto Rico were cleared.

- Redistricting Products. Public Law data were reviewed for internal consistency by subject matter analysts in the Population Division and the Housing and Household Economic Statistics Division, and by the FSCPE representatives. To date, the unadjusted files are still under review.

Clearance findings: edits and imputations

The demographic subject area branches within the Population Division and Housing and Household Economics Statistics Division reviewed the edited files (HCEF) against the unedited files (HCUF) to validate edit and imputation processing. The review was facilitated by the use of tabular displays that highlighted the performance of the edit routines and facilitated tracing through the data to isolate edit input and output data to confirm performance as designed. Based on this review, all the edit and imputation routines were validated and cleared.

Clearance findings: reasonableness

The FSCPE participants and the subject matter analysts reviewed the data to judge reasonableness. Using the comparative results as a point of departure (See Appendices A and B), the analysts pursued unexpected values in the data (i.e., cases where the comparisons of Census 2000 data and benchmark data showed differences outside expected ranges). A variety of tools were used to investigate anomalies. Geographic Information System (GIS) displays presented comparative data using maps. Geographic areas (such as counties) are highlighted based on the

comparison with benchmark data. Particular areas were investigated by moving to lower geographies (such as tract level data for a county). This analysis was complemented with an array of tabular data displays. Using the maps and tables together, and occasionally referring to detailed census records, analysts were able to assess the reasonableness of the data and provide clearance recommendations. By the time the processing had reached the HDF stage, all branches and the Count Review staff coordinating the FSCPE participation had cleared all the state files.

What can be learned from Count Review about Census 2000 data quality?

The review provided information about issues in the data that, while not sufficient to recommend against file clearance, indicated possible problems requiring resolution. In a few cases errors could be corrected during the processing flow. In many cases, the issues will flow to the Count Question Resolution (CQR) program. As of the preparation of this report, 4,330 issues were documented.

Table 2 provides a breakdown by originating organization. The table reflects the intensity of the early HCUF review. This proved valuable in later stages as the analysts could build on insights gained from this review, allowing very focused analysis in later stages. The table also shows the shift in emphasis during HCEF to review of edits and imputations by the Population and HHES branches with a comparatively reduced role by the FSCPE/IPC analysts at this stage.

Table 2.
Issues Documented by Organization

Branch	HCUF	HCEF*	HDF**	PL 105-119	Totals
Special Populations	165	323	0	0	488
Racial Statistics	356	190	57	4	607
Ethnic and Hispanic	75	85	5	0	165
Population and Housing	375	585	257	0	1,217
Fertility and Family	6	1	0	0	7
FSCPE/IPC	934	291	508	113	1,846
Total	**1,911**	**1,475**	**827**	**117**	**4,330**

** 139 of the 1,475 HCEF issues were identified as follow-up to HCUF issues*
*** 16 of the 827 HDF issues were identified as follow-up to HCUF or HCEF issues*

Table 3 provides a breakdown by general topics. As can be seen from the table, the majority of the issues were related to Group Quarters (GQ) data, general coverage matters, Hispanic population questions, and racial data. Each of these is discussed further below. The remaining issues, while individually important, do not suggest any general pattern or theme with respect to the overall quality of the Census data.

Table 3.
Issues by Topic

Topic Mentioned in the Issue	Percent
Group Quarters	57%
General Population	13%
Hispanic Population	11%
Race	11%
Age	9%
Sex	8%
Asian Population	6%
Native American Population	1%
Other	14%

NOTE: The sum of the percentages is greater than 100% due to issues addressing more than one topic.

Special Place/Group Quarters issues

A disproportionately large number of issues were identified for Group Quarters. Overall, GQ population is approximately 3% of total population, yet these issues represent 57% of all issues documented. It is important to note that GQ issues are, in some cases, easy to identify – they are discrete, readily recognizable concentrations of population. Even so, the issues suggest a substantial problem in this area. In general the GQ issues fell into one or more of these categories:

- Geographic location issues. In these issues the group quarter was not in the geographic area where it is known to exist. This may be a result of incorrectly assigning geographic coding, or the GQ could simply have been missed. Where the GQ was found in the data, but was apparently in the wrong place, geo-coding was the likely problem. This accounts for the bulk of the GQ issues. In some cases this was corrected during processing. Others will require further investigation.

- GQ population issues. These issues addressed unexpected population levels at GQs, usually a lower count than expected. These issues will require further investigation.

- GQ type issues. In these cases the type of GQ was different than expected (e.g., a university fraternity identified as different type of facility). These issues will require further investigation.

General population issues

About 13 percent of the issues documented mention unexpected differences of population when comparing Census 2000 with benchmark data. In some cases this was described as a possible coverage issue (where the population was lower than expected), while in others the underlying cause was not readily discernable. Many of these issues were referred to the Demographic Analysis to consider possible under/overcount factors. In general, theses issues did not disclose any broad themes that suggest a Census quality issue. Individual issues will require further analysis in the context of CQR.

Hispanic population issues

Approximately 11 percent of the issues mention Hispanic or Latino population issues. In general, these issues refer to larger than expected Hispanic population. The FSCPE participants noted large increases, but their local data often supported these increases even though Census estimates were lower. Many of these issues were also referred to the Demographic Analysis to consider in their analysis of national and regional increase in Hispanic population. In general, these issues do not suggest a Census quality issue, but seem to reflect a true demographic shift at a greater rate than expected from benchmark data. Individual issues will require further analysis in the context of CQR.

Racial data issues

The racial data presented severe analytic difficulties due to the category definition changes and the introduction of multiple race reporting. This resulted in identification of issues addressing the analytic process and tools as well as actual data content issues. If issues that address the tools and process are not counted, the percentage of total issues represented by actual content questions would be less than 5%. In general, theses issues do not suggest a Census quality issue, but do reflect the challenge of working with the new data definitions.

Conclusions

The Count Review analysis successfully accomplished two principal purposes in census evaluation: clearance of data files and products within a very tight processing schedule, and assessing (and in some cases improving) quality of the products. It was an excellent example of the power of marshaling analytic resources from both the Census Bureau and from the FSCPE.

What conclusions can be drawn about clearance process?

A rigorous examination of the data through Count Review contributed directly to the progressive improvement of the data and to an accumulation of insight into strengths and weaknesses in the data. The use of automated analytic tools was a critical success factor especially given the exceptionally tight time frames.

What conclusions can be drawn regarding Census 2000 quality?

The review resulted in the identification, investigation, and documentation of 4,330 issues. With the exception of group quarters, the issues do not disclose any broad themes that suggest a Census quality issue. The disproportionately large number of group quarters issues does suggest systemic problems in the collection of these data, possibly including enumeration, geo-coding, and type coding. The analysis cannot disclose whether the GQ enumeration was better or worse than previous censuses since this is the first time we had such an in-depth review. The balance of the issues, while not revealing any broad data quality patterns, may be significant individually and will receive further analysis in the context of CQR.

Appendix

Results of Benchmark Analyses Using Population Measures

Table A National Tract Totals Comparing Census 2000 Data with Benchmark Data

	National Totals														
Variable	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
Pop 2000 vs 1990	1313	515	987	2155	5162	8015	280	8201	6349	4648	3369	2290	7771	14388	65443
Pop 2000 vs Claritas estimates	1530	817	1658	3305	6318	9340	285	9251	6685	4111	2406	1495	3856	14387*	65443
Group Quarters Units 2000 vs 1990	8807	306	216	229	86	17	28280	25	83	180	147	227	12452	14388	65443
Housing Units 2000 vs 1990	936	352	608	1145	2571	8549	549	11321	6886	4615	3413	2368	7742	14388	65443
Housing Units 2000 vs Claritas estimates	1465	810	1731	3283	6546	9836	467	9551	6895	4054	2108	1152	3158	14387*	65443
Household Pop 2000 vs 1990	1291	500	978	2240	5340	8205	366	8296	6289	4565	3315	2240	7430	14388	65443
Group Quarters Pop 2000 vs 1990	9868	817	821	1020	1096	1022	22773	928	968	815	659	643	9625	14388	65

*no 1990 data from Claritas for Puerto Rico

Table B. National Tract Totals Comparing Census 2000 Group Quarters Data with 1990 Census Data

	Group Quarters Population 2000 vs. 1990														
State	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	T o t a l Tracts
AL	166	8	5	15	16	15	467	6	17	13	16	12	176	149	**1081**
AK	10	2	0	0	0	2	39	1	2	0	0	1	17	84	**158**
AZ	150	10	5	11	9	10	293	8	12	6	7	1	128	457	**1107**
AR	131	14	7	3	10	10	198	8	8	10	13	5	111	96	**624**
CA	1185	67	72	96	83	70	1566	67	83	66	65	53	950	2626	**7049**
CO	95	7	12	13	11	9	304	17	13	17	7	5	122	430	**1062**
CT	178	12	11	18	18	30	348	21	17	7	9	8	113	29	**819**
DE	22	3	1	2	0	2	68	0	3	3	2	0	26	65	**197**
DC	58	1	3	6	6	3	40	2	1	3	2	2	38	23	**188**
FL	464	26	26	25	17	24	578	24	19	14	18	17	374	1528	**3154**
GA	205	12	12	15	25	21	525	18	19	23	9	13	247	474	**1618**
HI	64	1	1	3	1	2	85	4	2	3	5	3	61	51	**286**
ID	56	6	3	5	2	4	80	2	5	5	1	5	62	44	**280**
IL	466	53	41	61	55	44	1364	51	56	41	29	26	375	304	**2966**
IN	200	21	26	22	35	30	627	28	19	25	18	21	221	121	**1414**
IA	110	25	18	34	35	28	242	31	28	23	19	11	135	54	**793**
KS	106	26	16	18	20	17	235	16	16	9	16	7	103	122	**727**
KY	115	13	12	21	27	27	471	20	17	17	8	8	173	65	**994**
LA	147	17	8	16	24	20	513	14	16	19	10	15	177	110	**1106**
ME	47	3	11	8	11	10	145	5	6	6	6	7	59	24	**348**
MD	148	9	14	13	14	16	525	14	15	13	9	9	168	251	**1218**
MA	333	21	33	35	33	32	367	31	37	24	15	16	238	152	**1367**
MI	310	32	34	41	43	40	1278	28	34	27	31	28	390	441	**2757**
MN	135	20	18	29	31	28	432	26	28	30	15	19	156	336	**1303**
MS	72	3	5	9	10	8	216	13	9	10	5	12	136	97	**605**
MO	232	28	17	31	35	22	417	25	37	18	16	17	219	206	**1320**
MT	18	0	4	0	1	3	53	2	0	3	2	1	18	165	**270**
NE	74	12	15	21	21	18	121	15	10	12	5	4	55	120	**503**

State	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
NV	39	3	1	3	5	2	43	1	3	1	1	2	26	357	**487**
NH	37	4	1	4	2	8	103	3	4	7	5	3	49	43	**273**
NJ	313	14	28	23	22	17	878	25	30	11	14	21	255	299	**1950**
NM	49	4	4	3	4	3	121	6	3	2	1	2	60	194	**456**
NY	897	61	56	71	85	110	2232	90	86	59	61	59	799	241	**4907**
NC	243	21	29	17	26	28	508	25	18	31	22	20	345	230	**1563**
ND	19	8	7	11	6	8	72	5	6	4	4	5	35	37	**227**
OH	428	41	50	63	55	49	1425	48	45	43	26	34	369	265	**2941**
OK	165	17	24	17	21	16	369	15	12	14	12	14	132	162	**990**
OR	151	12	12	11	11	10	175	3	9	10	6	11	152	182	**755**
PA	455	22	50	47	52	57	1264	46	55	38	32	35	658	324	**3135**
RI	41	4	1	5	9	3	87	8	6	8	1	4	39	18	**234**
SC	140	6	12	13	6	10	324	10	8	10	6	6	183	133	**867**
SD	25	3	5	10	8	7	57	6	5	5	6	3	36	59	**235**
TN	167	19	11	12	17	21	526	24	23	20	16	8	199	198	**1261**
TX	538	48	47	54	57	44	1150	50	37	34	30	30	465	1804	**4388**
UT	47	4	2	3	4	5	134	4	5	4	4	4	50	226	**496**
VT	43	4	5	4	8	4	66	1	6	6	2	1	19	10	**179**
VA	283	19	12	14	26	24	510	19	17	15	20	20	188	374	**1541**
WA	227	19	13	22	15	10	343	8	16	15	8	12	195	415	**1318**
WV	77	10	3	11	11	13	209	11	17	5	3	4	72	20	**466**
WI	182	18	17	29	50	28	547	23	28	24	20	16	224	127	**1333**
WY	5	4	1	2	3	0	33	0	0	2	1	3	27	46	**127**
National Totals	9868	817	821	1020	1096	1022	22773	928	968	815	659	643	9625	14388	**65443**
PR	96	5	2	2	2	1	208	1	1	3	1	3	85	451	**861**

Table C. National Tract Totals Comparing Census 2000 Group Quarters Unit Data with 1990 Census Data

State	Group Quarter Units 2000 vs. 1990														
	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
AL	177	7	4	1	0	1	553	0	1	1	1	4	182	149	**1081**
AK	5	1	2	0	0	0	43	0	1	0	1	1	20	84	**158**
AZ	134	6	2	2	2	0	346	0	0	1	1	2	154	457	**1107**
AR	143	4	0	5	1	0	263	0	3	3	1	2	103	96	**624**
CA	983	25	29	27	6	0	2035	3	9	24	15	26	1241	2626	**7049**
CO	78	7	5	0	1	1	372	0	2	0	1	6	159	430	**1062**
CT	152	13	4	4	2	1	444	0	1	2	2	2	163	29	**819**
DE	15	1	0	0	0	0	81	0	0	0	0	0	35	65	**197**
DC	39	4	1	4	1	0	62	1	0	3	0	0	50	23	**188**
FL	467	9	10	8	3	0	749	0	1	4	3	9	363	1528	**3154**
GA	219	5	4	6	3	0	636	1	2	4	3	5	256	474	**1618**
HI	56	0	0	0	1	0	102	0	1	2	1	1	71	51	**286**
ID	64	4	2	2	0	0	109	0	0	1	0	0	54	44	**280**
IL	439	12	13	8	3	1	1661	0	3	7	6	9	500	304	**2966**
IN	190	3	1	4	4	1	768	0	4	3	2	7	306	121	**1414**
IA	123	3	6	4	3	0	381	1	1	7	2	3	205	54	**793**
KS	89	8	3	4	1	0	319	0	1	6	1	3	170	122	**727**
KY	153	2	4	5	1	0	567	3	1	3	3	4	183	65	**994**
LA	105	4	2	2	1	0	607	0	1	2	4	2	266	110	**1106**
ME	26	1	2	1	1	0	168	1	1	2	1	1	119	24	**348**
MD	122	1	1	1	3	0	598	1	1	2	3	5	229	251	**1218**
MA	277	10	11	10	2	2	495	2	4	6	2	9	385	152	**1367**
MI	229	13	5	11	1	0	1450	0	1	4	7	10	585	441	**2757**
MN	87	4	2	4	0	0	518	0	1	2	4	4	341	336	**1303**
MS	83	1	0	2	1	0	264	0	1	5	3	4	144	97	**605**
MO	236	13	2	11	3	0	570	2	2	4	8	12	251	206	**1320**
MT	11	0	0	0	0	0	61	0	0	1	0	0	32	165	**270**

State	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	T o t a l Tracts
NE	71	1	2	4	1	0	193	0	1	1	3	1	105	120	**503**
NV	48	1	1	1	0	0	53	0	1	0	0	0	25	357	**487**
NH	30	1	3	0	0	0	121	0	0	1	1	0	73	43	**273**
NJ	249	9	3	4	2	1	1012	0	1	1	4	6	359	299	**1950**
NM	45	3	1	2	1	0	149	0	0	1	0	1	59	194	**456**
NY	816	25	12	16	6	1	2719	1	8	13	9	19	1021	241	**4907**
NC	239	9	5	9	3	1	672	0	1	10	6	10	368	230	**1563**
ND	22	0	0	5	1	0	106	0	0	1	0	2	53	37	**227**
OH	356	23	15	8	3	1	1759	1	4	6	5	4	491	265	**2941**
OK	162	3	2	4	1	0	488	0	2	3	4	6	153	162	**990**
OR	129	5	0	2	1	0	250	0	0	4	1	6	175	182	**755**
PA	316	15	10	10	2	0	1531	3	6	10	9	4	895	324	**3135**
RI	24	1	0	0	2	1	120	0	1	0	1	2	64	18	**234**
SC	137	3	2	3	3	0	381	0	1	5	4	1	194	133	**867**
SD	22	0	4	1	1	0	77	0	0	1	1	1	68	59	**235**
TN	167	1	5	4	1	1	628	1	1	7	3	5	239	198	**1261**
TX	517	22	11	13	7	1	1439	2	3	5	8	9	547	1804	**4388**
UT	40	3	1	2	0	0	170	0	0	1	0	2	51	226	**496**
VT	46	4	4	1	0	1	92	0	1	0	0	1	19	10	**179**
VA	279	8	8	5	1	1	653	1	5	4	4	1	197	374	**1541**
WA	183	4	7	3	2	1	456	1	3	4	3	2	234	415	**1318**
WV	70	2	0	3	2	0	260	0	1	2	1	3	102	20	**466**
WI	131	2	5	3	1	0	688	0	0	1	5	10	360	127	**1333**
WY	6	0	0	0	1	0	41	0	0	0	0	0	33	46	**127**
National Totals	8807	306	216	229	86	17	28280	25	83	180	147	227	12452	14388	**65443**
PR	102	2	0	0	0	0	246	0	0	0	1	0	59	451	**861**

Table D. National Tract Totals Comparing Census 2000 Household Population Data with 1990 Census Data

State	Household Population 2000 vs. 1990 Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
AL	39	18	38	64	94	111	4	121	94	97	71	41	140	149	**1081**
AK	1	0	0	2	0	10	0	10	13	10	9	4	15	84	**158**
AZ	44	8	7	11	24	54	2	78	55	50	50	43	224	457	**1107**
AR	15	9	15	33	38	53	1	73	60	41	40	47	103	96	**624**
CA	76	13	20	73	260	665	11	920	807	518	359	206	495	2626	**7049**
CO	6	1	2	9	20	68	8	96	72	65	45	40	200	430	**1062**
CT	22	11	14	14	58	158	5	201	123	74	44	19	47	29	**819**
DE	1	1	2	9	20	25	1	23	12	9	4	6	19	65	**197**
DC	11	8	13	26	27	26	2	21	9	5	5	2	10	23	**188**
FL	34	19	34	54	120	196	8	257	191	150	106	75	382	1528	**3154**
GA	36	12	17	50	84	111	4	119	112	105	86	79	329	474	**1618**
HI	13	2	5	13	30	48	5	40	14	15	14	3	33	51	**286**
ID	1	0	0	1	1	18	0	24	28	40	22	20	81	44	**280**
IL	115	44	65	109	341	534	11	435	299	180	143	90	296	304	**2966**
IN	36	11	30	46	167	222	5	205	158	136	78	52	147	121	**1414**
IA	2	1	5	27	113	180	5	186	91	49	26	11	43	54	**793**
KS	15	4	11	41	95	138	3	105	64	41	23	16	49	122	**727**
KY	11	2	20	48	111	141	1	140	119	98	66	51	121	65	**994**
LA	27	15	46	72	139	192	4	153	103	72	45	35	93	110	**1106**
ME	2	1	9	27	36	49	4	35	38	49	30	14	30	24	**348**
MD	51	19	23	61	91	177	6	124	98	79	48	42	148	251	**1218**
MA	23	6	13	31	96	253	10	275	188	113	62	48	97	152	**1367**
MI	84	38	60	165	392	426	53	283	207	136	128	73	271	441	**2757**
MN	8	3	4	29	130	204	10	161	130	84	57	50	97	336	**1303**
MS	19	7	16	25	57	70	0	87	65	51	41	13	57	97	**605**
MO	42	18	22	64	146	203	7	144	102	106	66	44	150	206	**1320**
MT	1	1	2	0	7	15	1	15	15	5	4	12	27	165	**270**
NE	3	0	5	22	56	94	3	71	41	23	26	11	28	120	**503**

State	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
NV	8	0	4	1	5	8	5	11	9	12	16	5	46	357	**487**
NH	1	0	0	3	6	19	2	42	37	34	33	17	36	43	**273**
NJ	36	15	28	54	132	257	17	321	245	161	127	69	189	299	**1950**
NM	12	1	1	14	38	45	9	32	25	10	9	3	63	194	**456**
NY	118	40	60	185	463	681	52	831	646	498	360	218	514	241	**4907**
NC	16	8	9	41	80	127	13	158	162	145	133	112	329	230	**1563**
ND	5	9	22	26	30	29	0	16	14	0	5	1	33	37	**227**
OH	87	31	87	217	497	570	13	407	232	159	118	65	193	265	**2941**
OK	13	6	15	37	80	140	2	164	111	78	51	36	95	162	**990**
OR	1	1	1	4	21	64	2	98	88	83	55	32	123	182	**755**
PA	58	26	82	195	524	633	15	448	276	166	87	64	237	324	**3135**
RI	2	1	2	5	26	48	1	53	22	18	13	11	14	18	**234**
SC	16	14	32	42	59	91	2	99	73	53	47	46	160	133	**867**
SD	8	2	6	10	20	31	7	28	12	12	3	9	28	59	**235**
TN	32	13	21	43	59	109	6	148	134	103	97	67	231	198	**1261**
TX	55	23	42	106	182	315	8	350	314	227	187	135	640	1804	**4388**
UT	2	0	1	3	7	27	4	34	39	28	19	17	89	226	**496**
VT	2	0	0	2	6	22	1	30	31	26	21	8	20	10	**179**
VA	30	6	24	37	115	172	13	205	159	96	66	52	192	374	**1541**
WA	11	3	1	10	27	84	1	137	131	98	87	69	244	415	**1318**
WV	12	12	18	38	87	81	1	82	39	31	13	6	26	20	**466**
WI	28	16	24	38	115	201	18	190	173	118	64	50	171	127	**1333**
WY	0	1	0	3	8	10	0	10	9	8	6	1	25	46	**127**
National Totals	1291	500	978	2240	5340	8205	366	8296	6289	4565	3315	2240	7430	14388	**65443**
PR	3	5	13	27	38	39	39	43	39	41	36	22	65	451	**861**

Table E. National Tract Totals Comparing Census 2000 Housing Units Data with April 1, 2000 Claritas Estimates

	Housing Units 2000 vs. Claritas estimates														
State	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
AL	23	17	34	46	93	120	0	154	120	121	67	40	97	149	**1081**
AK	3	1	4	10	18	6	0	12	11	5	3	0	1	84	**158**
AZ	79	11	24	38	134	181	1	48	29	21	17	8	59	457	**1107**
AR	12	2	15	21	48	65	2	97	85	67	38	23	53	96	**624**
CA	123	71	200	426	1061	1120	21	647	328	154	80	43	153	2622	**7049**
CO	29	29	31	67	106	138	8	83	40	22	13	14	52	430	**1062**
CT	14	5	19	31	77	167	6	192	145	72	31	10	21	29	**819**
DE	3	3	4	9	22	23	1	18	15	11	7	4	12	65	**197**
DC	6	1	2	5	13	8	3	20	29	37	23	7	11	23	**188**
FL	59	34	72	143	214	312	9	314	178	112	53	28	98	1528	**3154**
GA	40	18	62	73	132	219	8	188	163	83	46	25	87	474	**1618**
HI	7	4	7	20	33	40	6	33	20	13	12	11	29	51	**286**
ID	11	8	7	27	44	43	0	31	21	9	6	3	26	44	**280**
IL	136	59	103	148	291	442	20	483	413	240	114	54	159	304	**2966**
IN	49	27	53	98	186	239	9	225	153	87	49	30	88	121	**1414**
IA	4	5	12	30	95	164	4	191	133	47	16	12	26	54	**793**
KS	10	13	22	51	84	138	4	144	65	24	15	7	28	122	**727**
KY	15	9	25	27	83	135	5	186	169	115	63	32	65	65	**994**
LA	25	23	37	62	115	202	4	201	140	74	42	18	53	110	**1106**
ME	3	2	2	5	33	49	6	67	63	35	19	7	33	24	**348**
MD	29	18	28	62	123	194	10	163	61	81	60	50	88	251	**1218**
MA	31	13	31	65	147	297	9	280	170	85	31	16	40	152	**1367**
MI	73	41	81	146	277	521	58	450	278	153	86	38	113	442	**2757**
MN	12	8	26	51	118	198	12	250	155	73	20	9	35	336	**1303**
MS	10	12	19	34	40	82	2	92	74	61	36	12	34	97	**605**
MO	23	13	22	67	129	223	12	221	173	97	56	32	46	206	**1320**
MT	4	2	1	8	13	16	1	13	16	6	2	4	19	165	**270**

State	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
NE	5	2	16	16	44	93	4	98	53	23	10	3	16	120	**503**
NV	16	4	18	23	19	11	5	5	6	5	2	1	15	357	**487**
NH	3	0	13	11	38	73	1	46	21	10	4	3	7	43	**273**
NJ	51	22	58	111	219	290	20	300	254	127	62	38	99	299	**1950**
NM	16	10	16	13	29	38	9	45	22	8	9	6	41	194	**456**
NY	116	30	69	173	359	776	68	941	807	510	278	172	366	242	**4907**
NC	25	22	59	90	145	234	16	235	171	119	72	40	104	231	**1563**
ND	1	4	3	18	24	21	1	27	28	20	6	4	33	37	**227**
OH	46	37	72	139	319	491	19	630	403	266	101	46	107	265	**2941**
OK	21	14	21	58	110	203	3	152	107	57	31	4	47	162	**990**
OR	12	8	16	48	74	115	2	117	61	43	21	17	39	182	**755**
PA	43	27	90	125	272	497	26	650	515	253	112	63	138	324	**3135**
RI	3	3	3	10	13	44	3	35	34	36	14	9	9	18	**234**
SC	26	14	28	56	70	113	3	107	106	74	50	32	55	133	**867**
SD	9	4	4	10	14	38	7	37	15	11	6	8	13	59	**235**
TN	24	13	21	54	114	192	10	228	156	95	68	28	60	198	**1261**
TX	123	88	146	261	435	429	10	297	259	151	98	58	229	1804	**4388**
UT	7	11	9	34	42	51	6	30	42	11	9	7	11	226	**496**
VT	2	0	3	11	24	41	0	45	17	9	6	1	10	10	**179**
VA	29	14	36	76	178	240	12	202	141	102	47	26	64	374	**1541**
WA	31	17	46	92	99	229	1	186	73	46	22	11	50	415	**1318**
WV	2	4	9	17	39	69	0	106	80	45	31	20	24	20	**466**
WI	21	12	31	64	126	190	20	218	270	124	44	15	71	127	**1333**
WY	0	1	1	3	11	16	0	11	7	4	0	3	24	46	**127**
National Totals	1465	810	1731	3283	6546	9836	467	9551	6895	4054	2108	1152	3158	14387	**65443**
PR	0	0	0	0	0	0	38	0	0	0	0	0	0	823	**861**

Table F. National Tract Totals Comparing Census 2000 Housing Unit Data with 1990 Census Data

State	Housing Units 2000 vs. 1990														
	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
AL	12	5	18	27	55	99	1	105	84	102	114	74	236	149	**1081**
AK	0	2	2	1	4	16	0	13	10	11	4	3	8	84	**158**
AZ	51	8	7	11	17	82	7	128	69	36	27	34	173	457	**1107**
AR	4	7	8	17	28	55	3	64	54	54	45	49	140	96	**624**
CA	59	8	21	57	140	986	45	1651	584	282	169	95	326	2626	**7049**
CO	5	3	6	8	14	122	13	173	62	35	27	20	144	430	**1062**
CT	15	6	10	16	32	119	7	238	154	78	45	30	40	29	**819**
DE	1	0	0	2	3	20	4	38	18	12	10	3	21	65	**197**
DC	9	2	5	8	18	48	3	48	11	4	2	0	7	23	**188**
FL	29	10	34	50	111	267	10	299	159	121	103	88	345	1528	**3154**
GA	27	9	17	26	56	107	4	142	116	97	95	78	370	474	**1618**
HI	5	1	4	2	5	35	6	65	22	22	5	13	50	51	**286**
ID	1	0	0	0	3	11	0	33	26	30	27	27	78	44	**280**
IL	96	38	41	79	176	486	26	725	353	193	121	69	259	304	**2966**
IN	25	6	18	20	59	236	6	237	203	132	109	58	184	121	**1414**
IA	2	2	7	14	59	183	8	152	145	69	23	16	59	54	**793**
KS	10	3	11	24	79	171	3	112	66	31	23	19	53	122	**727**
KY	5	3	2	15	23	99	1	122	131	107	130	87	204	65	**994**
LA	26	21	27	46	92	188	5	195	103	81	54	41	117	110	**1106**
ME	1	0	2	2	6	31	4	44	65	49	39	31	50	24	**348**
MD	26	5	5	15	41	171	14	235	116	88	54	35	162	251	**1218**
MA	21	4	17	22	51	178	12	387	221	120	59	40	83	152	**1367**
MI	73	30	30	73	111	437	65	503	297	208	134	89	266	441	**2757**
MN	7	2	4	23	57	203	11	223	131	102	69	40	95	336	**1303**
MS	10	4	9	19	31	67	1	66	53	65	58	42	83	97	**605**
MO	23	16	21	45	91	202	11	178	128	88	92	50	169	206	**1320**
MT	1	1	1	1	6	12	1	16	12	10	5	6	33	165	**270**

State	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
NE	4	1	2	10	39	109	4	68	58	31	16	14	27	120	**503**
NV	6	1	1	5	5	13	6	22	11	10	10	3	37	357	**487**
NH	1	0	1	5	6	20	2	47	58	26	24	15	25	43	**273**
NJ	32	2	24	23	54	287	24	575	231	103	85	40	171	299	**1950**
NM	7	2	2	0	9	43	10	43	25	30	14	6	71	194	**456**
NY	90	19	40	42	183	692	68	1112	883	573	326	202	436	241	**4907**
NC	4	4	4	19	33	109	12	170	158	142	136	134	408	230	**1563**
ND	2	3	6	23	25	36	1	24	22	8	3	2	35	37	**227**
OH	45	30	40	71	169	565	29	557	377	235	164	107	287	265	**2941**
OK	16	6	17	41	78	218	5	132	86	60	47	30	92	162	**990**
OR	2	1	3	2	6	33	3	108	105	74	69	35	132	182	**755**
PA	37	19	29	68	164	605	25	711	404	241	138	80	290	324	**3135**
RI	2	0	1	5	8	32	1	72	34	26	12	8	15	18	**234**
SC	8	6	6	9	39	64	1	59	79	75	78	58	252	133	**867**
SD	6	1	4	6	10	28	7	41	22	10	6	4	31	59	**235**
TN	20	7	14	18	39	110	7	119	100	101	112	102	314	198	**1261**
TX	53	25	51	93	187	470	20	447	264	169	147	121	537	1804	**4388**
UT	3	1	1	2	5	26	3	48	39	27	25	13	77	226	**496**
VT	2	0	0	1	2	9	0	45	46	24	21	5	14	10	**179**
VA	20	4	9	23	44	154	21	240	119	127	115	65	226	374	**1541**
WA	9	6	3	8	19	50	3	186	139	94	85	68	233	415	**1318**
WV	4	4	9	23	35	60	0	75	65	56	35	35	45	20	**466**
WI	19	14	14	23	38	174	25	217	159	143	95	79	206	127	**1333**
WY	0	0	0	2	6	11	1	11	9	3	7	5	26	46	**127**
National Totals	936	352	608	1145	2571	8549	549	11321	6886	4615	3413	2368	7742	14388	**65443**
PR	1	1	2	5	4	19	39	39	43	36	41	41	139	451	**861**

Table G. National Tract Totals Comparing Census 2000 Population Data with April 1, 2000 Claritas Estimates

	Population 2000 vs. 2000 Claritas Estimates														
State	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
AL	39	32	58	63	100	149	1	144	118	70	47	35	76	149	**1081**
AK	2	1	2	6	8	19	0	13	9	6	3	2	3	84	**158**
AZ	78	5	18	38	64	141	0	96	59	50	29	20	52	457	**1107**
AR	8	4	17	31	57	77	2	106	88	42	26	21	49	96	**624**
CA	140	59	147	407	749	923	10	766	484	293	147	101	201	2622	**7049**
CO	25	6	27	50	89	86	4	77	70	42	39	32	85	430	**1062**
CT	14	12	14	23	67	139	4	175	135	91	43	27	46	29	**819**
DE	3	2	10	13	19	22	2	17	11	6	6	7	14	65	**197**
DC	10	1	1	4	7	6	0	21	29	26	26	10	24	23	**188**
FL	55	43	83	126	178	243	4	279	195	140	88	50	142	1528	**3154**
GA	38	27	45	88	126	164	1	186	147	92	66	42	122	474	**1618**
HI	15	6	17	14	33	43	5	29	22	13	15	4	19	51	**286**
ID	7	7	6	21	32	53	0	36	15	13	10	4	32	44	**280**
IL	164	71	109	162	332	454	11	427	305	189	119	76	243	304	**2966**
IN	47	22	69	100	150	263	4	201	152	110	52	27	96	121	**1414**
IA	2	3	14	22	84	190	3	204	116	48	19	10	24	54	**793**
KS	10	6	25	49	85	124	2	130	77	35	22	11	29	122	**727**
KY	19	14	25	55	130	195	1	185	129	62	38	26	50	65	**994**
LA	24	14	31	60	129	199	4	169	129	78	62	31	66	110	**1106**
ME	4	2	8	14	38	52	4	73	56	28	19	3	23	24	**348**
MD	31	20	40	71	117	179	3	151	110	78	46	30	91	251	**1218**
MA	28	9	19	44	119	264	8	282	182	107	59	35	60	152	**1367**
MI	88	27	75	172	362	481	45	400	244	155	77	49	140	442	**2757**
MN	9	9	12	58	112	217	6	221	135	76	28	29	55	336	**1303**
MS	16	17	16	28	58	90	3	95	74	38	19	19	35	97	**605**
MO	23	14	27	75	151	203	2	220	171	85	53	30	60	206	**1320**
MT	5	1	1	5	18	20	0	15	9	5	3	5	18	165	**270**

State	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
NE	4	0	6	22	38	79	1	107	56	29	20	3	18	120	**503**
NV	14	8	6	12	15	11	4	11	12	11	6	4	16	357	**487**
NH	2	2	2	12	19	40	1	61	40	22	13	7	9	43	**273**
NJ	38	30	54	106	172	249	13	305	223	162	104	57	138	299	**1950**
NM	17	16	19	16	28	37	9	31	26	12	9	6	36	194	**456**
NY	127	36	78	170	406	763	40	821	676	514	336	220	478	242	**4907**
NC	40	21	53	92	147	208	10	222	185	130	74	39	111	231	**1563**
ND	2	3	7	15	23	23	0	30	30	13	8	3	33	37	**227**
OH	59	43	82	196	393	563	15	539	361	186	92	40	107	265	**2941**
OK	12	11	25	48	113	146	3	174	120	67	32	19	58	162	**990**
OR	7	9	7	43	84	132	2	100	64	48	25	13	39	182	**755**
PA	47	26	51	126	291	551	7	620	484	235	121	68	184	324	**3135**
RI	3	0	5	5	17	38	1	34	41	22	13	11	26	18	**234**
SC	24	18	34	56	115	105	2	125	72	60	38	20	65	133	**867**
SD	10	1	6	10	10	43	7	29	19	14	8	4	15	59	**235**
TN	28	17	36	80	126	184	5	190	155	90	47	42	63	198	**1261**
TX	120	83	142	222	343	371	4	318	282	186	118	84	311	1804	**4388**
UT	2	5	11	15	37	49	2	31	29	27	15	16	31	226	**496**
VT	2	1	0	6	16	27	0	47	33	14	7	4	12	10	**179**
VA	21	24	33	83	176	196	11	213	152	90	46	42	80	374	**1541**
WA	18	12	45	74	125	177	0	168	107	68	31	16	62	415	**1318**
WV	9	5	13	37	61	98	1	98	49	35	18	6	16	20	**466**
WI	20	12	26	56	141	240	18	246	189	95	60	33	70	127	**1333**
WY	0	0	1	4	8	14	0	13	9	3	4	2	23	46	**127**
National Totals	1530	817	1658	3305	6318	9340	285	9251	6685	4111	2406	1495	3856	14387	**65443**
PR	0	0	0	0	0	0	38	0	0	0	0	0	0	823	**861**

Table H. National Tract Totals Comparing Census 2000 Population Data with 1990 Census Data

State	Population 2000 vs. 1990														
	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
AL	33	19	39	57	93	118	1	113	95	105	70	41	148	149	**1081**
AK	1	0	0	2	2	6	0	12	11	11	8	4	17	84	**158**
AZ	43	12	5	13	19	57	0	75	59	48	51	42	226	457	**1107**
AR	14	9	12	32	36	49	1	72	53	50	45	49	106	96	**624**
CA	77	16	23	73	258	653	6	929	778	543	334	224	509	2626	**7049**
CO	7	1	3	3	18	74	6	92	73	62	53	41	199	430	**1062**
CT	21	9	18	17	63	142	5	198	131	64	45	27	50	29	**819**
DE	2	0	2	7	21	28	1	17	13	12	4	5	20	65	**197**
DC	16	7	14	24	29	27	0	19	5	9	3	0	12	23	**188**
FL	32	22	33	49	128	193	6	241	183	147	122	75	395	1528	**3154**
GA	37	12	22	42	85	95	2	127	102	107	91	73	349	474	**1618**
HI	15	1	3	16	28	46	6	32	25	13	13	6	31	51	**286**
ID	1	0	0	2	1	15	0	22	32	40	19	19	85	44	**280**
IL	118	45	67	104	337	499	10	430	315	191	131	94	321	304	**2966**
IN	36	10	30	49	153	217	4	217	156	132	84	50	155	121	**1414**
IA	2	1	2	28	112	178	5	190	91	44	26	15	45	54	**793**
KS	16	4	8	38	95	139	3	111	62	38	25	13	53	122	**727**
KY	12	2	17	42	102	134	2	143	135	99	66	49	126	65	**994**
LA	27	14	43	71	132	172	1	169	104	80	47	34	102	110	**1106**
ME	4	1	9	25	34	47	4	40	37	49	29	16	29	24	**348**
MD	51	20	21	62	91	165	2	116	111	82	54	40	152	251	**1218**
MA	23	7	17	33	121	240	7	244	184	126	61	52	100	152	**1367**
MI	81	38	60	161	378	423	49	269	218	154	118	87	280	441	**2757**
MN	9	1	8	29	119	201	7	157	135	92	58	46	105	336	**1303**
MS	21	6	12	20	54	74	1	78	73	48	43	13	65	97	**605**
MO	43	19	29	65	139	194	2	144	100	110	68	46	155	206	**1320**
MT	2	1	1	1	6	13	0	15	17	6	2	11	30	165	**270**

State	Percent Difference														
	< -25	-24 ~ -20	-19 ~ -15	-14 ~ -10	-9 ~ -5	-4 ~ 1	0	1 ~ 4	5 ~ 9	10 ~ 14	15 ~ 19	20 ~ 24	> 25	Unmatched	Total Tracts
NE	3	0	4	22	55	93	1	76	40	24	26	10	29	120	**503**
NV	9	0	4	1	2	10	4	13	9	10	14	5	49	357	**487**
NH	1	0	0	4	5	18	1	42	35	38	30	19	37	43	**273**
NJ	34	19	32	58	123	238	16	320	257	154	132	72	196	299	**1950**
NM	13	1	2	12	34	48	9	29	23	10	12	4	65	194	**456**
NY	130	41	60	181	456	689	34	808	641	514	359	222	531	241	**4907**
NC	20	7	11	35	76	114	11	147	157	160	138	119	338	230	**1563**
ND	6	7	22	24	35	24	0	17	15	2	2	4	32	37	**227**
OH	86	36	78	210	476	575	13	408	247	156	118	68	205	265	**2941**
OK	12	7	15	44	72	144	1	152	109	77	50	42	103	162	**990**
OR	1	0	2	4	20	62	1	98	89	82	62	30	122	182	**755**
PA	55	27	79	178	472	647	6	456	301	157	107	62	264	324	**3135**
RI	3	0	3	5	26	42	1	56	25	16	15	8	16	18	**234**
SC	15	16	32	30	62	84	0	95	80	56	48	39	177	133	**867**
SD	8	2	6	10	22	29	9	25	15	11	4	8	27	59	**235**
TN	33	15	23	41	59	105	6	139	132	104	102	71	233	198	**1261**
TX	54	22	43	94	177	306	4	350	303	229	187	135	680	1804	**4388**
UT	2	1	1	2	8	26	2	37	36	27	23	14	91	226	**496**
VT	2	0	1	2	7	19	0	33	32	27	20	7	19	10	**179**
VA	29	7	26	39	107	180	11	184	168	86	69	53	208	374	**1541**
WA	11	3	2	15	21	70	1	159	115	100	85	68	253	415	**1318**
WV	17	11	17	40	75	82	0	81	43	30	18	4	28	20	**466**
WI	25	16	26	37	111	201	18	195	168	108	71	52	178	127	**1333**
WY	0	0	0	2	7	10	0	9	11	8	7	2	25	46	**127**
National Totals	1313	515	987	2155	5162	8015	280	8201	6349	4648	3369	2290	7771	14388	**65443**
PR	4	5	11	29	37	38	38	46	36	40	36	24	66	451	**861**